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Enjoying Influence on Others: Congruently High Implicit and Explicit Power Motives Are Related to Teachers' Well-being

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Abstract

The present study examined the associations of implicit and explicit power motives with the well-being of teachers. Teachers (N = 170) participated in an online assessment, which included measures for implicit motives (assessed by the Operant Motive Test), explicit motives, and well-being. We expected congruently high power motives to be linked with the highest levels of well-being. We tested this assumption using polynomial regressions with response surface analysis. Results were consistent with our hypothesis. Additionally, there was an effect of directional motive incongruence (a combination of a low implicit and a high explicit power motive was associated with higher well-being than a high implicit/low explicit combination), which did not hold when controlling for emotional stability. Results for achievement were comparable, but weaker, and there was no effect for motive incongruence. No significant associations were found for motive (in)congruence in the affiliation domain. Our findings underline the importance of the power motive in understanding individual differences in teachers' well-being.

Keywords: implicit motives, power motive, operant motive test (OMT), polynomial regression analysis, person-job-fit

Enjoying Influencing Others: Congruently High Implicit and Explicit Power Motives Are Related to Well-being among Teachers

As educators of future generations, teachers hold an important position in society. Accordingly, they are constantly in the public eye, receiving much attention from both the general public and the scientific community. Triggered by alarming attrition, early retention, and burnout rates among teachers, researchers have become increasingly interested in teachers' occupational well-being in recent years. On average, teachers report elevated levels of stress (Chaplain, 2008). This can impair their performance, physical, and mental health (Bauer et al., 2007; Kieschke & Schaarschmidt, 2008) and negatively affect the way they are perceived by their students (Klusmann, Kunter, Trautwein, Lüdtke, & Baumert, 2008). However, teaching is not a particularly stressful job for all teachers. Besides a number of environmental factors, several teacher characteristics have been linked to individual differences in stress perception and health outcomes. Many of them involve motivational factors. Yet social motives, and in particular the need for power, have been widely neglected in this stream of research. This is remarkable because the essence of the power motive - enjoying influencing and guiding others - is conceived as a core aspect of teaching (McClelland, 1975; Winter, 1973). In this article, we hypothesize that congruently high implicit and explicit power motives are associated with well-being for teachers.

Teacher Characteristics Associated with Well-being

The main stressors teachers report are interacting with difficult students, balancing demands from different sides (students, colleagues, school administration, and parents), time pressure, and high workload as well as constantly being evaluated and coping with change (Kyraciou, 2001). Research on health and (occupational) well-being of teachers - also in the context of teacher burnout (Vandenberghe & Huberman, 2006) - has focused for the most part on environmental influences (e.g., support by school administration) and their relation to

differences in well-being. Recently, a number of teacher characteristics have also been proposed as personal resources positively influencing the well-being of teachers.

When looking at broad personality factors and their relation to well-being in general, emotional stability (i.e., low neuroticism) typically emerges as one of the strongest predictors (DeNeve & Cooper, 1998). Emotional stability also seems to be most relevant for teachers' well-being. Teven (2007), for example, found emotional stability to be positively related to job satisfaction, motivation, and caring, and negatively related to all components of burnout. Emotional stability has also been found to be positively associated with teaching enthusiasm and, in turn, teachers' occupational well-being as well as students' perception of instructional quality (Kunter, Frenzel, Nagy, Baumert, & Pekrun, 2011). Given the relevance of emotional stability, it may be useful to demonstrate associations of further personality characteristics with teacher's well-being over and above the influence of emotional stability (Pretsch, Flunger, & Schmitt, 2012).

Further relevant personality characteristics that have been found to be related to teachers' well-being include self-efficacy beliefs (Klassen & Chiu, 2010; Schwarzer & Hallum, 2008), hardiness (Chan, 2003), coping strategies (Parker & Martin, 2009), self-regulatory patterns (Klusmann et al., 2008), orientations to happiness (Chan, 2009), resilience (Pretsch et al., 2012), and goal orientations (Parker, Martin, Colmar, & Liem, 2012). All of these self-reported personality characteristics have considerable overlap with emotional stability because they influence the extent to which teachers perceive their working environment as stressful. Nevertheless, they have rarely been tested concurrently with emotional stability. The incongruence between implicit and explicit motives has been found to function as a "hidden stressor" (Baumann, Kaschel, & Kuhl, 2005), suggesting that it might affect teachers' well-being over and above the influence of emotional stability.

Implicit and Explicit Motives

Traditionally, three motive dispositions have been examined. McClelland (1985) referred to them as the "big three": the affiliation motive (establishing, maintaining and restoring positive interpersonal relationships; Atkinson, Heyns, & Veroff, 1954), the achievement motive (improving one's performance, competing with a standard of excellence; McClelland, Atkinson, Clark, & Lowell, 1953), and the power motive (having an impact on others' feelings, actions, or beliefs; Winter, 1973). McClelland, Koestner, and Weinberger (1989) were the first to propose independent implicit and explicit motive systems for each of the three motive domains. Implicit motives are dispositional preferences for certain emotional incentives that are learned in early childhood and predict spontaneous behavior and long-term outcomes. They are unconscious and best measured by fantasy-based operant tests that build on the Picture Story Exercise (PSE, Schultheiss & Pang, 2007), which is a research variant of the Thematic Apperception Test (TAT, Murray, 1943). Their explicit counterparts are learned later in the socialization process and represent goal orientations that predict respondent behavior. Due to their conscious nature they can be assessed by self-report questionnaires.

Congruence or incongruence between implicit and explicit motives has been shown to be related to well-being (for an overview see Brunstein, 2010). Among the positive outcomes associated with motive congruence are higher emotional and cognitive well-being (Baumann et al., 2005; Hofer, Busch, Bond, Li, & Law, 2010), fewer psychosomatic symptoms (Baumann et al., 2005; Schultheiss, Jones, Davis, & Kley, 2008), a more mature identity status (Hofer, Busch, Chasiotis, & Kiessling, 2006), and less volitional depletion (Kehr, 2004).

When we describe implicit and explicit motives as being incongruent or discrepant, this can mean one of two things: Either the implicit motive is not translated into an equally high explicit motive and consequently into explicit goals (described as "leaving undone

things we ought to have done"; Winter, 1996, p. 355), or the explicit motive lacks support from an equally high implicit motive (described as "doing those things we ought not to have done "; Winter, 1996, p. 355). Langens and McClelland (1997, quoted in Kazén & Kuhl, 2011) describe the first case as "a lack of striving for goals that would give rise to positive affect" and the second one as "striving for goals without gaining pleasure from doing so". The first case may lead to frustration of an implicit need, while the second case may lead to missing out systematically on rewarding experiences (Hagemeyer, Neberich, Asendorpf, & Neyer, 2013). Langens and McClelland (1997) argue that the context determines which direction of discrepancy will have the most detrimental effect.

Similarly, congruence between motive systems can refer to both implicit and explicit motives being congruent at different levels (high/low) and we can have specific hypotheses about the "ideal" level of motive scores *and* the (in)congruence between them. Only few studies have taken this into account and have tested specific hypotheses in this regard. Hagemeyer and colleagues (2013) investigated the effects of (in)congruence in communal motives in relationships and found that individuals scoring congruently high on both motives reported the highest relationship satisfaction at the time of the motive assessment as well as one year later. Kazén and Kuhl (2011) tested a specific hypothesis regarding the direction of incongruence and found the combination of a high explicit and a low implicit power motive to be most strongly associated with poor well-being in a sample of managers, while they found no general effect of motive (in)congruence.

Power Motive in Teachers

Beyond the question of congruency or (directional) discrepancy, it has been proposed that the motives of affiliation, achievement, and power are not equally relevant in all contexts (Veroff & Feld, 1970). This idea allows assumptions about the type of motive that is most relevant for well-being in a certain work context. For instance, Kazén and Kuhl (2011) chose

a sample of managers to study the effect of motive (in)congruence in the power domain on well-being because they argue that the "center of the activity of a successful manager lies in the direction, coordination, delegation, and planning of other people's actions" (p. 325). In coding systems for implicit motives, having impact on other people by helping, guiding, and transmitting knowledge is considered an essential component of the power motive (Kuhl & Scheffer, 1999; McAdams, 1985; Winter, 1994). These aspects of the power motive, in particular, make it highly relevant for teaching (McClelland, 1975; Winter, 1973) and contributed to the classification of teaching as a mainly power-relevant occupation (Jenkins, 1994).

Winter (1973, 1988) reported that both male and female college graduates with a high implicit power motive were more likely to choose a power-related career, among others teaching, than those with a low implicit power motive. Jenkins (1994) supported Winter's findings and also found that a high implicit power motive in women was associated with higher job satisfaction in power-related careers, consistent with Veroff and Feld's (1970) "congruence principle". However, Jenkins' (1994) results were not confirmed among teachers – in fact, women who worked as noncollege teachers showed a lower implicit power motive than women in other professions. But even if the implicit power motive does not systematically guide vocational choices in favor of teaching, it may influence the experience and classroom management of teachers. Consistent with this assumption, Schiepe, Stölzle, Schattke, and Kehr (2009) found (noncollege) teachers with higher implicit power motives to experience more flow while teaching and to elicit more flow in their students.

Overall, the power motive seems to play a role in relevant aspects of the teaching profession. However, empirical evidence is rather scarce. To our knowledge, neither well-being-related associations of the power motive nor the interaction of implicit and explicit power motives have been examined in teachers so far.

The Present Investigation

The focus of the present research was on the power motive and, in particular, the influence of congruence or discrepancy between implicit and explicit power motives on well-being in a diverse sample of teachers working in different school types (primary, secondary, and vocational schools). Although motive discrepancies in all motive domains, and probably most consistently in the achievement domain, have been found to impair well-being, we expected the power motive to be the most relevant for teachers because influencing others is a core element of teaching (e.g., McClelland, 1975). That is, enacting the power motive includes many aspects that are highly relevant to the teaching profession, for example (1) prosocial guidance, teaching of skills and knowledge, helping students and colleagues, and serving as a role model (2) spontaneous encouragement, (3) responsible and integrative leadership that entails supporting other's autonomy, and (4) exertion of dominance and strongly controlled guidance. Since teachers should feel better the more they acknowledge and enjoy strivings for social influence, we expected congruently high power motives to be associated with the highest levels of well-being among teachers. Furthermore, we expected the positive effect of motive congruence to occur over and above of emotional stability. Additionally, we aimed at investigating the influence of directional discrepancies between the implicit and explicit power motives using polynomial regressions with response surface analysis, as suggested by Kazén and Kuhl (2011) in their study on power motives in managers.

Method

Participants

One hundred seventy teachers (131 women and 39 men) voluntarily participated in an online survey. Their mean age was 44.7 years (ranging from 23 to 64 years, *SD* = 12.3) and on average they had been working as teachers for 15.8 years (ranging from 0[1] to 40 years, *SD*

= 12.6). 30.6% of the participating teachers worked at primary schools, 54.1% at secondary schools (with all German secondary school tracks being represented in the sample[2]), and 15.3% at vocational schools. The sample was not designed to be representative of all teachers in Germany. Nevertheless, a comparison with official statistical data (Federal Statistical Office, 2010a-c) showed that the distribution of demographical data (gender, age, work experience) is represented fairly well.

Measures

Implicit Motives. The Operant Motive Test (OMT; Kuhl & Scheffer, 1999)[3] was administered to assess implicit motives. The OMT uses a modified PSE technique with 15 pictures showing the silhouettes of one or more persons. For each picture, participants are asked to choose a protagonist, to spontaneously invent a story, and to write down the answers to the following questions: (1) *"What is important for the person in this situation and what is the person doing?"* (2) *"How does the person feel?"* (3) *"Why does the person feel this way?"* and (4) *"How does the story end?"*. Figure 1 illustrates two example responses coded as different components of the implicit power motive.

Extensive research on the validity of the OMT is reported in Scheffer (2005) and Scheffer et al. (2003) as well as in Baumann et al. (2005), Baumann, Kazén, and Kuhl (2010), Kuhl (2001), and Kuhl, Scheffer, and Eichstaedt (2003). For example, the convergent validity of the measure was supported by significant correlations of the OMT motive scores with PSE motive scores coded according to Winter (1994; Scheffer. 2001) when arousing the respective motives experimentally (power $r = .47$, $p < .001$; achievement $r = .47$, $p < .001$; affiliation $r = .31$, $p < .05$; note that correlations are lower without motive arousal, Schüler, Brandstätter, Wegner, & Baumann, 2015). Previous work has also demonstrated that implicit motives as measured by the OMT were able to successfully predict behavior (cf. Baumann & Scheffer, 2011; Kuhl, 2001). For example, the OMT affiliation motive was associated with

early interpersonal binding (Scheffer et al., 2003) and moderated cortisol responses to acute psychosocial stress in high school students (Wegner, Schüler, & Budde, 2014). Adolescents with higher OMT achievement motives are more successful in applying for an apprenticeship (Heckhausen & Tomasik, 2002). In a study by Wegner and Teubel (2014), the OMT achievement motive predicted a different type of behavior in team sports (match performance) than the explicit achievement motive (choices for goal distances). Scheffer et al. (2003) showed the OMT achievement motive to be related with grades in university and the power motive to be associated with success in assessment center tasks for managers. Furthermore, Scheffer (2005) found the OMT power motive to predict peer ratings of leadership skills.

In the present study, two trained coders independently coded a subset of 1125 responses (of n = 75 participants). Disagreements were resolved through discussion, together with a third trained and experienced coder. We obtained overall scores for the affiliation, achievement, and power motives by aggregating the four approach components for each motive, as suggested by previous work (Baumann et al., 2005, 2010). The inter-rater agreement of the independently coded scores, calculated following the procedure described in Winter (1994) for the PSE, was .93. When coding the PSE, a correction for length of protocol is required. As there was only one coding per picture of the OMT, this was not necessary here.

Explicit Motives. To measure explicit (self-attributed) motives, we applied subscales of the Motive Enactment Test (MET; in German Motiv-Umsetzungs-Test, MUT; see Kuhl & Henseler, 2004) and subscales of the Business-focused Inventory of Personality (BIP; in German: Bochumer Inventar zur berufsbezogenen Persönlichkeitsbeschreibung; see Hossiep & Paschen, 2003, 2008). The MET scales have been used especially in research on motive congruence (e.g., Baumann et al. 2005; Kazén & Kuhl, 2011). In addition, Schüler et al.

(2015) show significant correlations with other standard instruments in motivation research such as the Personality Research Form (PRF, Jackson, 1984; power $r = .46$, $p < .001$; achievement $r = .23$, $p < .05$; affiliation $r = .22$, $p < .05$) and the goal questionnaire (cf. Job, Langens, & Brandstätter, 2009; Schnelle, Brandstätter, & Knöpfel, 2010; power $r = .31$, $p < .001$; achievement $r = .25$, $p < .001$; affiliation $r = .42$, $p < .001$). The respective BIP subscales have been used in previous research, especially in the organizational context, to measure the explicit achievement and power motives (e.g., Bergner, Neubauer, & Kreuzthaler, 2010; Mayrhofer, Steyrer, Strunk, Schiffinger, & Iellatchitch, 2005; Müller, Mohr, & Rigotti; 2004; Schuh, Hernandez Bark, Van Quaquebeke, Hossiep, Frieg, & Van Dick; 2014).

We assessed the affiliation motive using the four-item MET scale affiliation dominance (e.g., *"I'm in my element when I can chat with other people"*; $\alpha = .70$). The explicit achievement motive was measured using a combined score ($\alpha = .84$) of the four-item MET scale achievement dominance (e.g., *"I often engage in spontaneous activities in which I can test my abilities"*) and the seven-item BIP scale achievement motivation (e.g., *"I am only satisfied with my work when I achieved an outstanding performance"*) that was developed based on McClelland's (1985) conceptualization of the achievement motive. To measure the explicit power motive, we used a combined score ($\alpha = .72$) of the four-item MET scale power dominance (e.g., *"When I am in a group, I often express my opinions"*) and the eight-item BIP scale leadership motivation (e.g., *"I avoid conversations in which I have to influence others heavily"* (reverse-coded)) that was developed based on McClelland's (1985) conceptualization of the power motive. In the present sample, teachers who held leading positions at their schools (e.g., headmaster, chair of a working group; $n = 79$) showed a significantly higher explicit power motive than teachers who did not ($n = 91$), $t(168) = -3.15$,

p = .002, d = 0.48, but there were no differences in the explicit affiliation or achievement motives (ps > .18) which supports the validity of the measure used.

Emotional stability. The eight-item BIP scale emotional stability (e.g., *"I am not easily thrown off track"*; α = .83) was used. This scale is based on the conception of neuroticism/emotional stability in the five-factor model. It is widely used in practice and in research in the organizational context (e.g., Müller et al., 2004; Rauschenbach & Hertel, 2011) and it has shown convergent and predictive validity (i.e., the correlation with the NEO-PI-R Neuroticism scale was r = -.78 and it correlated moderately with both objective and subjective job success, cf. Hülsheger, Specht, & Spinath, 2006).

Well-being. We assessed well-being using the WHO-Five Well-being Index (WHO-5; World Health Organization, 1998; Bech, Olsen, Kjoller, & Rasmussen, 2003; Bech, 2004). The WHO-5 captures positive psychological well-being and consists of five items measuring positive mood (e.g., "I have felt cheerful and in good spirits"), vitality ("I have felt active and vigorous") and general interest (e.g., "My daily life has been filled with things that interest me"). Participants are asked to rate each of the items on a 6-point Likert scale from 0 (*not present*) to 5 (*constantly present*) concerning the previous fourteen days. In the present study, the internal consistency of the scale was α = .87.

Procedure

After obtaining consent from the respective administrative authority, participants were recruited via snowball sampling. School principals were contacted via e-mail and were asked to forward the invitation to participate in the study among their team members. Teachers were also contacted directly, e.g., via associations for teachers. We asked teachers to voluntarily complete the online survey containing all of the described measures as part of a larger questionnaire package. None of the participants were paid for their services and they could withdraw from participating at any time.

Statistical model

We carried out polynomial regressions with response surface analyses (RSA) to investigate the effects of (directional) discrepancies and congruence between implicit and explicit motives on well-being, as recommended by Edwards (1994, 2002). Using this analysis allows differentiating between the association of an outcome variable with (a) the agreement, (b) the degree of the discrepancy, and (c) the direction of the discrepancy between two predictor variables. Shanock, Baran, Gentry, Pattison, and Hegestad (2010) provide a general introduction and Schönbrodt (2015) offers a comprehensive overview on the method and its application.

To enhance interpretability of the results, we centered the predictors around a meaningful zero point (as recommended by Schönbrodt, 2015) by computing *z*-scores for implicit and explicit motives. We used the RSA package in R (Schönbrodt, 2014) to run the RSA models. In a preliminary step, we assessed whether there are indeed discrepancies in the predictors (with respect to numerical congruence). The distribution was 32.4 % implicit < explicit power motives, 33.5 % congruence, and 34.1 % implicit > explicit power motives, so all three possible configurations were present in the sample.

The motive incongruence assumption is often tested as a difference model: $Z = c_0 + c_1(X\text{-}Y)^2 + e$. However, the difference model makes a lot of assumptions that are not tested. The polynomial regression analysis, in contrast, allows to test all implicit mathematical constraints in a full model: $Z = b_0 + b_1X + b_2Y + b_3X^2 + b_4XY + b_5Y^2 + e$. For example, it is no longer assumed that (but empirically tested whether) b_3 equals b_5 (cf. Schönbrodt, 2015). To test the full model, several new variables have to be calculated: (a) the square of the standardized explicit power motive score, (b) the cross-product of the standardized implicit and explicit power motive scores, and (c) the square of the standardized implicit power motive score. Then, the outcome variable (well-being) was regressed on the standardized

predictor variables (implicit and explicit power motives), the cross-product of the standardized predictors, and the square of each standardized predictor. All these terms were entered into the regression simultaneously. If the variance of the outcome explained by the regression (R^2) was significantly different from zero, four surface values (a_1 to a_4) were calculated to interpret the results of the polynomial regression. These surface values describe whether different relationships between the predictor variables are related to the outcome variable.

The *surface value* a_1 describes a linear, additive relationship of implicit and explicit power motives along a line of perfect agreement. If a_1 is significant and positive, well-being increases as implicit and explicit motive scores increase (Y = X). The *surface value* a_2 describes a non-linear relationship between implicit and explicit motives and well-being. If a_2 is significant and positive, this indicates that both types of motive congruence (low/low and high/high) are associated with an increase in well-being. The *surface value* a_3 describes an effect of a particular direction of the discrepancy between implicit and explicit motives on well-being. If a_3 is significant and positive, this indicates that well-being is increased when the explicit motive (X) is higher than the implicit motive (Y) and reduced when the discrepancy is the other way around. The *surface value* a_4 describes the relationship between the level of discrepancy and the outcome variable. It thus indicates a non-directional effect of incongruence between implicit and explicit motives on well-being.

Polynomial regression analysis allows testing specific expectations about how the relationship between the two predictors (implicit and explicit motives) relates to the outcome variable (well-being). In the present study, we expected that power motive congruence would be related to higher well-being, and that well-being would be highest when both implicit and explicit power motives were high. A rising ridge model would best depict these hypothesized relationships. This model is characterized by significant surface values a_1 and a_4, i.e., there is

both a linear effect along the line of congruence and an effect of the level of discrepancy between implicit and explicit motives (higher levels of discrepancy being associated with lower well-being). To test whether a rising ridge model indeed represented the data best, we compared several nested polynomial regression models (full polynomial, rising ridge surfaces, and basic squared differences). In these model comparisons, starting from the full polynomial model, the most parsimonious model that did not show a significantly worse fit in comparison to the previous (more complex) model was chosen. This procedure makes sure that the data are accurately represented, but avoids the risk of overfitting (cf. Schönbrodt, 2015).

Results

Intercorrelations. As listed in Table 1, the correlations between implicit and explicit motive scales were not significant. The implicit motives showed no significant correlations with well-being. Explicit affiliation and achievement motives yielded significant, but small positive correlations with well-being, while the explicit power motive showed a medium-sized correlation with well-being.

Polynomial regression analysis. Several response surface analysis models on well-being using the (implicit and explicit) power motives as predictors were computed and compared. The overall model was significant (R^2 =.15, $p < .001$). For the full polynomial model, the surface values were: $a_1 = 1.93$ ($p < .001$); $a_2 = 0.73$ ($p = .13$); $a_3 = 1.16$ ($p < .05$); $a_4 = -1.02$ ($p = < .05$). Model comparisons revealed that a shifted rising ridge (SRR) model had the best fit to the data (fit indices are displayed in Table 2): The difference in χ^2 between the SRR model and the previous models (full, SRRR) was not significant (i.e., it did not show a worse fit to the data) and the difference in χ^2 between the SRR and the rising ridge (RR) model was significant (i.e., the fit of the RR model was significantly worse than of the SRR model). Hence, the SRR model was chosen, as it was the most parsimonious model with the

best fit. The results of the polynomial regression analysis based on the SRR model on well-being are listed in Table 3. The surface value a_1 was positive and significant ($p < .001$), indicating that high levels of implicit and explicit power motives had additive effects on well-being. Furthermore, the surface value a_3 was positive and significant ($p < .05$), indicating that the particular direction of the discrepancy between implicit and explicit power motives had a significant effect on well-being. There was also a general effect of congruence, as indicated by a significant value a_4 ($p < .05$). The response surface pattern of the shifted rising ridge model is illustrated in Figure 2. Consistent with our expectations, congruently high levels of implicit and explicit power motives were associated with the highest level of well-being (see back corner in Fig. 2). At the same time, the particular discrepancy of high implicit and low explicit power motives was associated with the lowest level of well-being (front-left corner in Fig. 2).

In an additional analysis, we controlled for emotional stability. The overall model was significant ($R^2 = .46$, $p < .001$). For the full polynomial model, the surface values were: $a_1 = 1.06$ ($p < .01$); $a_2 = 0.57$ ($p = .14$); $a_3 = 0.56$ ($p = .17$); $a_4 = -1.11$ ($p < .01$). Again, several nested response surface analysis models were computed and compared. As Table 2 shows, a rising ridge (RR) model displayed the best fit. The difference in χ^2 between the RR and the previous models (full, SRRR, SRR) was not significant (i.e., it did not show a worse fit to the data) and the difference in χ^2 between the RR and the squared differences (sqdiff) model was significant (i.e., the fit for the squared differences model was significantly worse than for the RR model). Hence, the RR model was chosen, as it was the most parsimonious model with the best fit. For this RR model, the surface values were: $a_1 = 0.96$ ($p < .05$); $a_2 = 0.00$; $a_3 = 0.00$ and $a_4 = -1.17$ ($p < .01$). This means that, when controlling for emotional stability, there was a linear additive effect on the line of congruence as well as a general (non-directional)

effect of incongruence, but there was no difference between the two directions of discrepancy. The response surface pattern of the RR model is illustrated in Figure 3.

Affiliation and achievement motives. We controlled for the influence of the (implicit and explicit) achievement and affiliation motives by entering them as control variables into the polynomial regression analysis with the power motives as predictors of well-being. This model yielded a very similar pattern of surface values, $a_1 = 2.15$ ($p < .001$); $a_2 = 0.53$ ($p = .26$); $a_3 = -0.09$ ($p = .88$); $a_4 = -1.14$ ($p < .05$) as the model controlling for emotional stability. An analogous polynomial regression analysis on well-being using the (implicit and explicit) affiliation motives as predictors did not produce any significant results, i.e. the full model did not explain a significant amount of variance ($R^2 = .04$, $p = .27$).[4]

For the achievement domain, the overall model was significant ($R^2 = .12$, $p < .001$) and the surface values for the full polynomial model were: $a_1 = 1.33$ ($p < .05$); $a_2 = 1.01$ ($p = .06$); $a_3 = 1.31$ ($p < .01$); $a_4 = 0.87$ ($p = .06$). Comparisons of nested polynomial regression models revealed that a shifted rising ridge model (SRR) provided the best fit. The surface values for this SRR model were: $a_1 = 1.46$ ($p < .01$); $a_3 = 0.00$; $a_3 = 1.32$ ($p < .01$); $a_4 = 0.79$ ($p = .09$). When controlling for emotional stability, the surface values were lower, but the pattern of results did not change substantially. Thus, teachers with a combination of low implicit and high explicit achievement motives reported higher well-being than those with high implicit and low explicit achievement motives. In contrast to the models with the power motives, there was no general effect of motive incongruence and overall, the relationships were weaker.

Gender differences. Since the sample was female oriented and gender differences in power motivation have been reported previously (Winter, 1988), we tested whether gender differences may have played a role in the results reported here. Neither the implicit, $t(168) = -0.82$, $p = .42$, nor the explicit power motive, $t(168) = 0.57$, $p = .57$, differed between men and

women, and there were also no gender differences for well-being, $t(168) = 0.61$, $p = .54$. When we controlled for gender in the polynomial regression analyses, this also did not change the results.

Discussion

The present research investigated the role of implicit and explicit power motives for teachers' well-being. Consistent with previous findings (e.g., Köllner & Schultheiss, 2014; Spangler, 1992), implicit and explicit motives were found to be statistically unrelated. Whereas the explicit power motive was positively associated with well-being, the implicit power motive was not. However, polynomial regressions with response surface analyses revealed that the (in)congruence between implicit and explicit motives explained additional variance, even when controlling for emotional stability in the analysis. Congruently high implicit and explicit power motives were associated with the highest levels of well-being. Results for achievement were comparable, but weaker, and there was no effect for motive incongruence. No significant associations with well-being were found for (in)congruence in the affiliation motives. This suggests, as has been previously proposed (Jenkins, 1994; McClelland, 1975; Winter, 1973), that the power motive is indeed the most influential in the teaching profession.

It is noteworthy that the findings concerning the influence of the directional discrepancies between implicit and explicit motives are opposite to those previously found in managers (Kazén & Kuhl, 2011). While congruently high power motives are the most favorable for both professions, the least favorable combination differs for the two samples. For managers, a high/low combination of implicit/explicit power motives was less detrimental for well-being than a low/high combination, suggesting that managers should be especially wary of striving for influence they do not enjoy. By contrast, a high/low combination of implicit/explicit power motives was most detrimental for well-being in the

present sample of teachers, suggesting that teachers should not miss opportunities to strive for influence – even if they do not wholeheartedly enjoy it. However, the directional effect was driven by the overlap with emotional stability. When controlling for emotional stability, the high implicit/low explicit discrepancy was not related with significantly lower well-being than the low implicit/high explicit discrepancy. This suggests that teachers low in emotional stability avoid situations in which they have to influence others explicitly (cf. BIP sample item). Avoiding overt power struggles and explicit opposition may be adaptive when one is highly sensitive to negative affect (i.e., high in neuroticism) and has low capacities to self-regulate negative affect (Baumann, Kaschel, & Kuhl, 2007).

Our present findings are in line with the conclusion by McClelland et al. (1989) as well as with many findings that incongruence between implicit and explicit motives has negative effects, regardless of the direction of the discrepancy (Baumann et al., 2005; Kehr, 2004; Schüler, Job, Fröhlich, & Brandstätter, 2009; see Brunstein, 2010, for an overview). But how can the different results compared to the study with managers by Kazén and Kuhl (2011) be explained? Why do managers with high implicit and low explicit power motives feel well whereas teachers do not? Several reasons are conceivable.

First, there are a number of methodological differences between Kazén and Kuhl's (2011) approach and the approach used in the present study: (a) We used a different measure of well-being (the WHO-5 scale vs. three scales assessing satisfaction in relationships, high positive and low negative affect), (b) the measure of the explicit power motive was not identical (we additionally used the BIP subscale leadership motivation), and (c) Kazén and Kuhl (2011) entered a measure of explicit self-congruence (self-determination) in the first step of their analysis, which we did not consider in our analysis (but which might be overlapping with emotional stability that we considered as a control variable). It should also be noted that the relationship between the explicit power motive and well-being was negative

(r = -.15, p < .01) in the sample of managers that Kazén and Kuhl (2011) used and positive (r = .32, p < .001) in the sample of teachers reported here. This may have affected the results of the polynomial regression analyses. Those aspects call for further research comparing managers and teachers to disentangle the specific effects of each of the studied variables.

Second, there may be a ceiling effect of explicit power motives among managers. Because leadership motivation constitutes an essential part of the job profile, managers may report such high levels of explicit power motives that relatively low scores in this group are still high compared to those of teachers. Third, when people fail to set explicit power goals, intuitive behaviour control mechanisms can help to implement implicit power needs. These may be sufficient for Kazén and Kuhl's group of high-level managers who typically deal with competent, efficient, and self-regulated employees. The teachers in our sample, in contrast, may have to claim their influence on others more explicitly because they deal with children and adolescents whose self-regulatory skills are not fully developed.

Finally, in the leadership motive pattern, McClelland and Boyatzis (1982) identified an index of inhibition (i.e., the number of negations and passive phrases in picture stories) as a beneficial ingredient for career success among managers because it helps to implement power strivings in socially more acceptable ways. Not admitting to strive for power too explicitly may indicate such an attenuation that is beneficial for managers but less relevant for teachers who work in a context with limited opportunities for advancement. Thus, while the inclusion of implicit and explicit motives and their effects on well-being seems a promising avenue for improving the assessment of person-job-fit, more studies comparing teachers, managers, and other power-related professions are necessary to validate and specify these differences further.

Limitations and Future Perspectives

The present research has to be interpreted in light of several limitations. First, the sample of teachers was self-selected and thus potentially biased. However, comparisons with official statistical data revealed a fair fit with the demographics of the population of teachers in Germany. In addition, comparisons with the norms of the dependent variable showed that well-being scores were in an average range. It is therefore unlikely that the sample only consisted of exceptionally healthy or exceptionally unhealthy teachers. Second, the cross-sectional design of the study does not allow causal interpretations. For example, low well-being may be a cause rather than a consequence of teachers' low power strivings. In future studies, it would be informative to assess the relationships longitudinally.

Third, we used the OMT to measure the implicit power motive but expect similar findings with the PSE. However, convergent findings may dependent on several preconditions. For example, a crucial precondition for convergence between OMT and PSE seems to be that the respective motive is momentarily aroused (cf. Scheffer, 2001). We do not know whether our cover-story (i.e., influencing career counseling for future teachers) was sufficient to arouse the power motive.

Fourth, the finding that congruently high implicit and explicit power motives are associated with high well-being may help improve both selection and education of future teachers as well as give new impulses for interventions in the field of teachers' well-being. Teachers who are high in implicit and explicit power motives have a desire to influence, guide, and direct others, to receive attention, to pass on knowledge, and to convey values. They do not only explicitly strive for this influence but also enjoy it and have access to extended experiential networks of action alternatives. More research is needed to understand how such resources in dealing with the demands of teaching can be trained in order to preserve or enhance well-being.

Finally, we do not know whether power motive congruence leads to better teaching outcomes. Future studies will need to include measures of teachers' competence and effectiveness to test whether power congruent teachers are also better teachers. Power has received a bad reputation and several findings point to a dark and authoritarian side of power. For example, group leaders with a high implicit power motive tend to inhibit information flow into group discussions (Fodor & Smith, 1982) and reduce feelings of competence in group members (Fodor & Riordin, 1995; for an overview see Fodor, 2010). However, the power motive also has a bright side because it encompasses prosocial guidance and fosters helping behavior (Aydinli, Bender, Chasiotis, Cemalcilar, & van de Vijver, 2014), generativity (Hofer, Busch, Chasiotis, Kärtner, & Campos, 2008), and love for children (Chasiotis, Hofer, & Campos, 2006). Thus, the effects on students may depend on the way teachers enact their implicit power motive (McClelland, 1975; Winter, 1973). Kuhl and Scheffer (1999), for example, differentiate five enactment strategies within the implicit power motive that will be worthwhile to consider in future research (see also Baumann, Chatterjee, & Hank, 2015).

Conclusion

This study provides an empirical validation for the claim that power motives are essential personality dispositions for teachers. Congruently high implicit and explicit power motives are associated with higher well-being in teachers and, thus, might potentially be important assets for their health. The results further suggest that, when looking at the influence of motive dispositions on occupational health, it is not enough to investigate either implicit or explicit motives alone. The combined assessment of both motive systems provides better insight into the question of personal inclinations matching the specific demands of an occupation.

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Footnotes

[1] The sample included 15 pre-service teachers who were receiving on-the-job training after graduating from university at the time of data collection. They did not differ significantly from the more experienced teachers, neither in regard to the dependent variable well-being nor in most of the motive scales. The only significant difference was a higher explicit power motive ($t(168) = -2{,}52$; $p = .01$) in the group of pre-service teachers. However, age and years of work experience did not correlate significantly with implicit and explicit motive scales or dependent variables.

[2] The German secondary school system consists of several tracks that differ in the number of school years and the academic opportunities available to students after graduating. Even though tracks vary between different regions in Germany, a rough differentiation can be made between the academic track (Gymnasium) and the nonacademic tracks (e.g., Realschule, Hauptschule) in that passing the final exams of the Gymnasium (i.e., the "Abitur") is obligatory for university education.

[3] A comprehensive scoring manual for the OMT is available in German and in English from the second author.

[4] One might argue that the explicit affiliation motives were less reliable because they were assessed with fewer items (4 items) than the explicit achievement and power motive (11 and 12 items, respectively). However, the findings were similar when using only the four-item MET scales for power and achievement. We included the additional BIP scales because they are common in career counseling and give a more complete picture of power.

Table 1

Intercorrelations Between the Main Variables (Implicit Motives, Explicit Motives, Well-being, and Emotional Stability)

	(2)	(3)	(4)	(5)	(6)	(7)	(8)
(1) Implicit Affiliation Motive	.08	-.44***	.04	.08	-.03	.05	.04
(2) Implicit Achievement Motive		-.31***	.00	-.07	-.01	.00	-.02
(3) Implicit Power Motive			-.01	-.03	.08	.09	.04
(4) Explicit Affiliation Motive				.08	.26**	.16*	.20*
(5) Explicit Achievement Motive					.40***	.29**	.10
(6) Explicit Power Motive						.32**	.27***
(7) Well-being							.63***
(8) Emotional Stability							

Note. Correlations with the implicit motive scores are non-parametric correlations (Kendall's Tau), all other correlations are parametric correlations (Pearson's *r*).

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 2

Testing Different Rising Ridge Models Against the Full Polynomial Model, Squared Differences, and the Null Model

Models without control variables							
Model	R^2	χ^2	*df*	*p*	RMSEA	SRMR	AIC
full	.147	0.00	0		0.000	0.000	3575.98
SRRR	.135	2.34	1	.124	0.090	0.021	3576.34
SRR	**.135**	**2.51**	**2**	**.703**	**0.039**	**0.022**	**3574.49**
RR	.103	8.59	3	.014	0.105	0.042	3578.56
sqdiff	.024	23.02	4	.000	0.167	0.068	3591.00
null	.000	27.12	5	.043	0.161	0.073	3593.09
Models controlling for emotional stability							
Model	R^2	χ^2	*df*	*p*	RMSEA	SRMR	AIC
full	.455	0.00	0		0.000	0.000	3968.70
SRRR	.448	2.17	1	.141	0.083	0.014	3968.87
SRR	.448	2.25	2	.783	0.027	0.015	3966.95
RR	**.440**	**4.57**	**3**	**.128**	**0.055**	**0.021**	**3967.27**
sqdiff	.419	10.80	4	.013	0.100	0.031	3971.50
null	.391	19.00	5	.004	0.128	0.042	3977.70

Note. SRRR = shifted and rotated rising ridge model; SRR = shifted rising ridge; RR = rising ridge; sqdiff = squared differences; best fitting model is printed in boldface. *p* = significant difference (i.e., worse fit) compared to the more complex model above.

Table 3

Explicit-Implicit Power Motive Discrepancy as Predictor of Well-being (Based on the Shifted Rising Ridge Model)

	B	*SE*	R^2
			.14***
Explicit Power Motive (b_1)	1.53***	0.34	
Implicit Power Motive (b_2)	0.30	0.34	
Explicit Power Motive Squared (b_3)	-0.28*	0.12	
Explicit Power x Implicit Power Motive (b_4)	0.56*	0.25	
Implicit Power Motive Squared (b_5)	-0.28*	0.12	
	Coefficient	*SE*	
Surface Value a_1: Slope along X = Y (as related to Z)	1.83***	0.46	
Surface Value a_2: Curvature on X = Y (as related to Z)	0.00		
Surface Value a_3: Slope along X = -Y (as related to Z)	1.24*	0.50	
Surface Value a_4: Curvature on X = -Y (as related to Z)	-1.12*	0.49	

Note. $a_1 = (b_1 + b_2)$, where b_1 is the beta coefficient for the explicit motive and b_2 is the beta coefficient for the implicit motive, $a_2 = (b_3 + b_4 + b_5)$, where b_3 is the beta coefficient for the explicit motive squared, b_4 is the beta coefficient for the cross-product of explicit and implicit motive, and b_5 is the beta coefficient for the implicit motive squared, $a_3 = (b_1 - b_2)$, $a_4 = (b_3 - b_4 + b_5)$;

B = Unstandardized coefficients for variables. *SE* = standard error. R^2 = variance accounted for. * $p < .05$ ** $p < .01$ *** $p < .001$

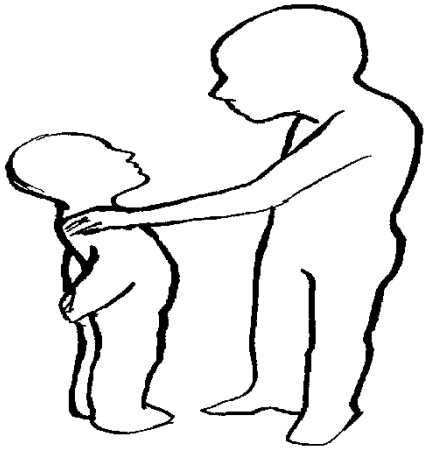
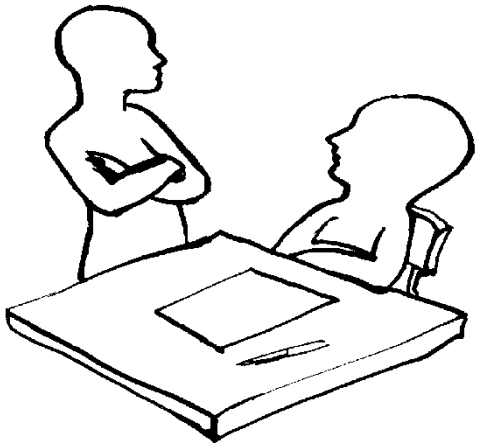
	**What is important to the person in this situation and what is the person doing?** "she is encouraging the smaller person" **How does the person feel?** "calm, serene" **Why does the person feel this way?** "she enjoys being able to help the other person" **How does the story end?** "they discuss a possible solution together" *(person on the right marked as protagonist)*
	**What is important to the person in this situation and what is the person doing?** "the protagonist informs the subordinate about how to proceed" **How does the person feel?** "confident" **Why does the person feel this way?** "the protagonist is the boss; he is authorized to give directives; he knows where it's at" **How does the story end?** "the subordinate expresses concerns in respect to the directives; the directives of the protagonist will be followed nevertheless" *(person on the left marked as protagonist)*

Figure 1. Two measurement examples of the implicit power motive.

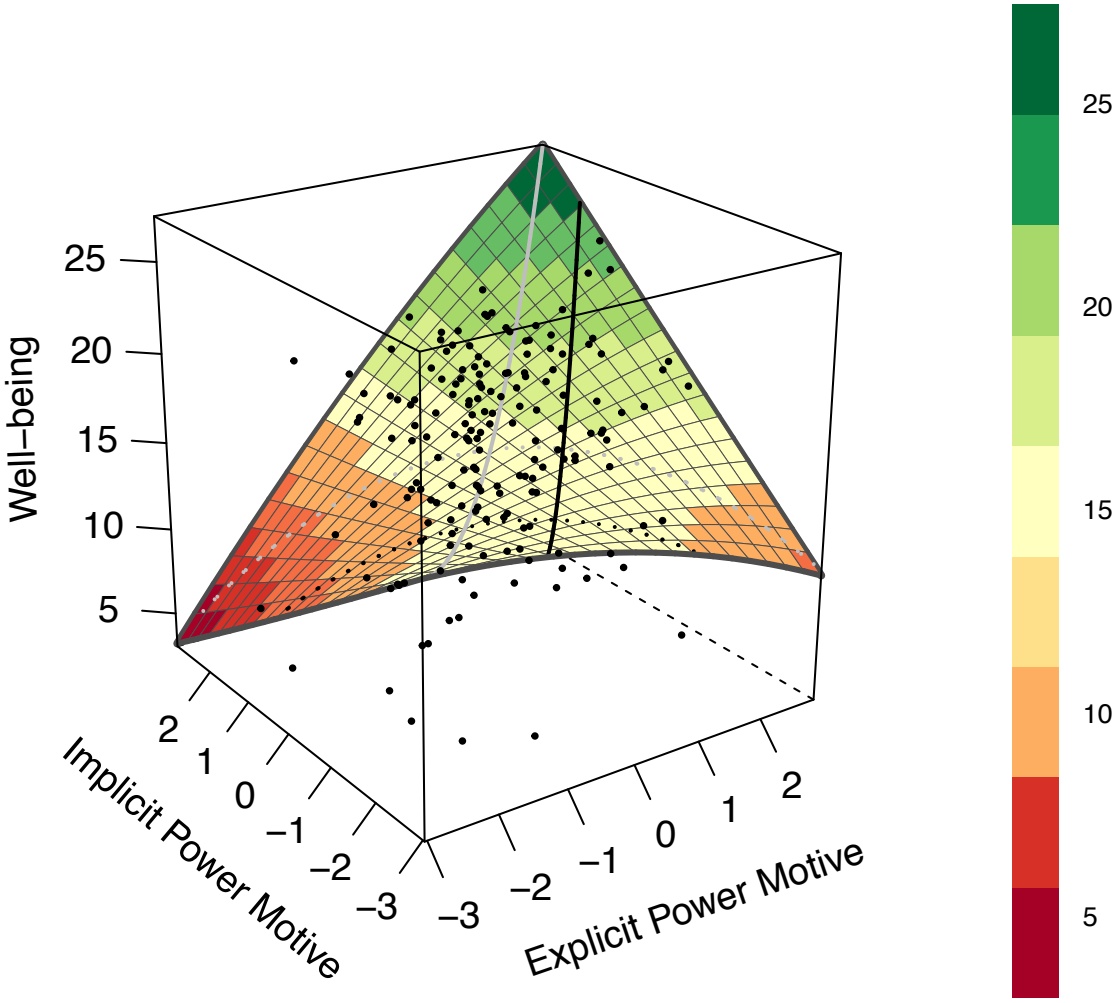


Figure 2. Response surface analysis plot of the shifted rising ridge model on well-being (range of scores: 3 - 25). The predictors were the explicit power motive and the implicit power motive.

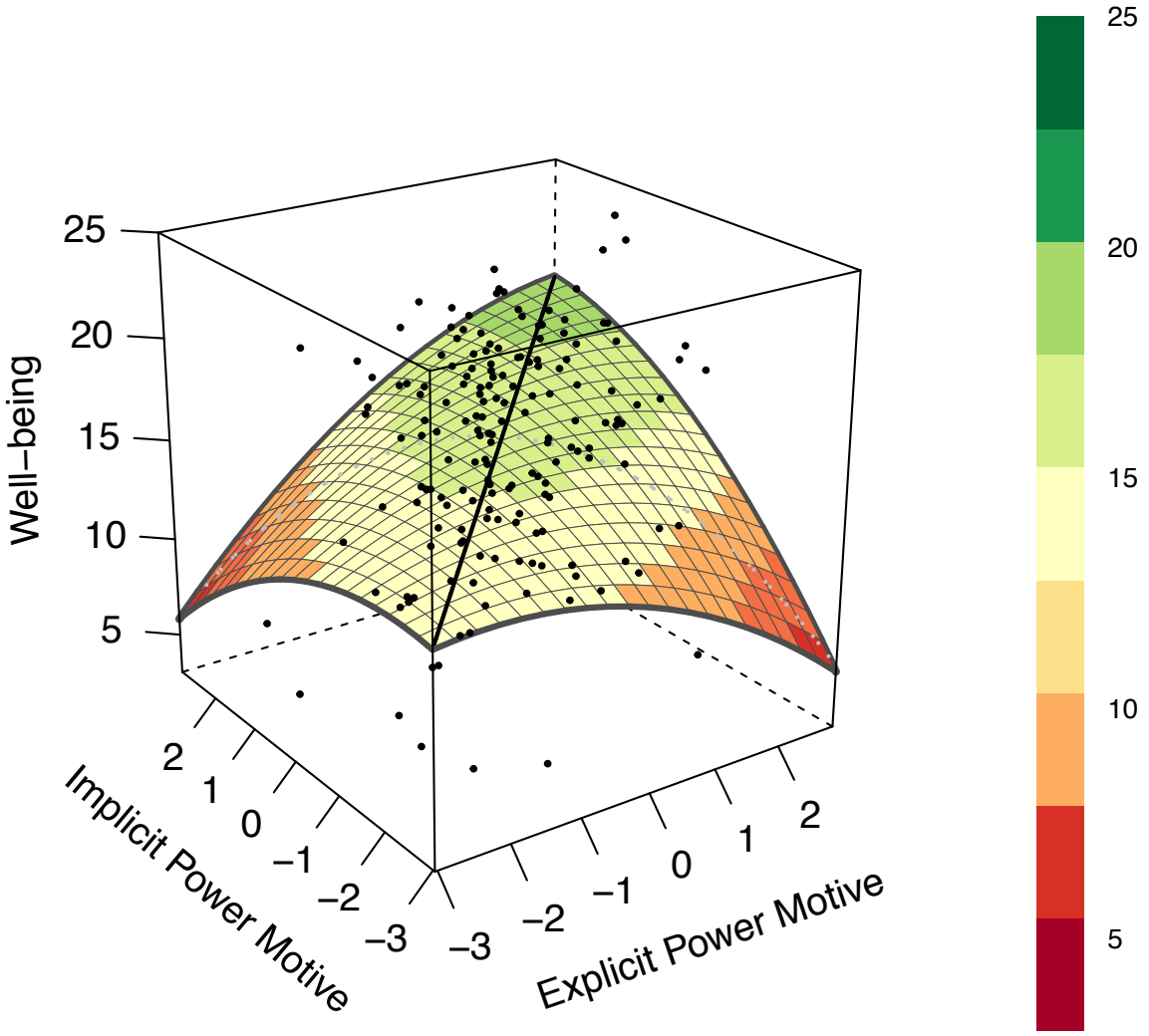


Figure 3. Response surface analysis plot of the rising ridge model on well-being (range of scores: 3 - 25) when controlling for emotional stability. The predictors were the explicit power motive and the implicit power motive, and emotional stability as a control variable.